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The New Zealand Beekeepers' Journal.

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The Editor's Apiary at Kati Kati, Bay of Plenty.

ISSUED MONTHLY

FOR

THE NATIONAL BEEKEEPERS' ASSOCIATION OF N.Z.

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The New Zealand Beekeepers' Journal

The Official Organ of the
National Beekeepers' Association of N.Z.

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National Beekeepers' Association of New Zealand.

The object of the Association is the improvement of the Beekeeping Industry and furthering the interests and prosperity of the Beekeepers throughout the Dominion. Membership is extended to any Beekeeper who is in accord with the aims and objects of the Association on payment of fees as follows:—1 to 15 Hives, 5/-; 16 to 50 Hives, 10/-; 51 to 100 Hives, 15/-; 100 to 200 Hives, 20/-; every additional 100, 5/- extra.

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All communications respecting the Association and Journal to be sent to
FRED C. BAINES, Kati Kati.

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EDITORIAL.

A Happy and Prosperous New Year to you all.

* * * *

What an extraordinary season! Sleet, snow, and frost in December in different parts of the country; high winds and rain in the South Island; high winds and drought in the North. In the Editor's locality, it has not rained save a few showers for about three months; the paddocks are all going brown, and clover practically gone. Yes, and we had a touch of frost too in December, which is a thing not very prevalent in winter in these parts. So we are wondering what it is all going to mean to the industry; it will be a great pity if the season, which promised so well at the beginning, fizzled out.

However, we are not so badly off as our Australian friends, as the following extracts from letters will show:—

"I am sorry to say we are having a bad time over here. We had a disastrous drought last season, and are now having another this year—a thing we have never experienced here before. We consider one drought bad enough, but two in succession is about the limit."

And another:—"One serious result of the drought has been the heavy loss experienced by beekeepers. The bees have been dying at such an alarming rate that it was feared a disease had attacked them. An apiary inspector has investigated the matter, and has discovered that the mortality has been due to the lack of pollen during the winter months. It was also discovered that breeding had almost ceased. In the case of one beekeeper, out of over 100 hives only 17 remain."

This is very serious reading, and we sympathise with our friends in their trouble.

* * * *

We are sorry to learn that Mr. A. Goodin, who has been temporarily employed as assistant apiary inspector for the Auckland Province, has received notice from the Department that his services will not be required after next February. The Auckland instructor, Mr. G. V. Westbrooke, told us that Mr. Goodin was a "terror to work," and kept him so busy writing reports of his visits that he himself was not able to make but very few. We believe Mr. Goodin has made just on 1,000 visits since being employed by the Department, and we should like this number compared with other officers' work. Certainly if we had a number of men of this type we should not receive reports of the existence of box-hives and disease, as we are constantly doing. When the permanent position at £170 per annum was advertised, Mr. Goodin applied for it, on the condition that he continued to receive the same rate of wages as he was then receiving—viz., 14/- per day. This, to us, seems a fair proposal, but evidently the Commissioners, or whoever is responsible did not think so, and another man was appointed. The Department has admitted that they lose a lot of their best men by better salaries being offered to them outside the Public Service; but here was a case where an admittedly good man is allowed to go because he would not accept a smaller salary than he was receiving as a temporary officer. Pity 'tis!

* * * *

Our recent canvass for new subscribers having resulted in a material increase, we are carrying out our promise to improve the Journal with the extra revenue provided. We trust our readers will appreciate the improved class of paper and the slight alteration of the front cover. It is our intention to make the issue 20pp. instead of 16pp., and to occupy the space in the front cover for the reproduction of photos. of apiaries, &c. To this end we shall be glad to receive from our readers photos. for reproduction, preferably printed in black and white. That appearing this month is the Editor's apiary, taken 6th December, 1919.

* * *

We received a 5/- postal note from a new subscriber, who has omitted to fill in his name and address on the printed slip which he sent, consequently he is probably waiting and wondering why he does not receive the Handbook and Journal. Should any of our readers hear of a case where a man is complaining on this score, please tell him the above. The post-mark looks like Te Kuiti.

Market Reports.

There is not much demand at present for Home trade, but there is a good export enquiry.

Chilian.—The high prices asked are only the result of retail sales—Pile 2 at 85/-, and Pile 1 at 90/-. There are further arrivals in dock, which will test the market.

Californian.—350 cases sold at 92/-, and 92/6 has been refused for a further 250 cases. Sellers say they will not take under 97/6 at present.

St. Domingo.—150 barrels sold at 67/6 with bees, and 72/6 without bees.

Jamaican is selling in retail at full prices. Second-hand honey is selling at fair prices under importers' quotations.

Beeswax.—There is a steady demand for African at £9 to £9 10s. **Chilian:** 40 sacks have been sold at £10 2s. 6d. to £11 2s. 6d. as in quality. The demand will probably improve when shipments can be made to Russia.

TAYLOR & CO.

Liverpool, 23rd October, 1919.

The Director of the Horticulture Division has received from the apiary instructors the following report concerning the honey crop prospects:—

Auckland.—The prospects for a good honey yield in the Auckland districts still remain fair, but a good rain would considerably benefit the clover, and greatly improve the present prospects. A few small lines of section honey are coming in, and the prices for this class of honey are improving. Beeswax is still in demand; from 2/- to 2/3 is being offered for good samples.—G. V. Westbrooke.

Wellington.—From the indications the crop this season is likely to be patchy. The climate has varied extensively over the country, and although clover is in full bloom almost everywhere, it is only yielding nectar in specially favoured localities. The manuka is also in full bloom, but this plant invariably yields a good crop. Beekeepers in forest locations, particularly in the Taranaki Province, have not had the bloom that is usual in the spring, one noticeable instance being the almost total absence of flowers on the native honeysuckle. The want of sugar for late spring feeding has also been felt keenly by many beekeepers, and they have consequently been unable to get their colonies in that

condition so essential to honey production. Notwithstanding these difficulties, it is expected that many localities will produce, on account of skilful and scientific manipulation, their average crop.—F. A. Jacobsen.

Christchurch and Dunedin.—Generally the weather in the South Island has been against the storage of nectar. Wintry conditions have prevailed during the past month, consequently beekeepers have had to resort to feeding to keep their colonies going. However, there is an excellent showing of clover, and, given fine weather, a good crop seems assured. The season is really three weeks or a month late, but there is ample time to secure a good crop. Prices are firm: sections are in strong demand, whilst bulk honey is slow of sale. Beeswax is in strong demand; prices range from 1/9 to 2/3, according to quality.—E. A. Earp.

Beekeeping for Beginners.

[As these instructions conform to the seasons in the Auckland Districts, an allowance must be made for difference in latitude North and South. Average bee-seasons in the extreme North are four weeks earlier, and in Southland three weeks later.—Ed.]

Although we are afraid the weather is against the harvesting of honey, the honey flow should be well on at this time of the year, and, given a few fine days, the difference in the hives would be quickly noticed. Therefore, in the hopes that normal summer weather will have come before next month's issue, we will make a few remarks on taking the honey off the hives and extracting same.

If the job is to be done well, it is necessary that it is carried out in a bee-proof shed. (No, do not use the wife's kitchen; you make an awful mess of her place and temper!) Our requirements are:—A wheel barrow with an empty super on, smoker, hive tool, bee brush, and a tin to hold any pieces of burr comb that may be necessary to get out of the way.

To remove the honey, have your smoker going well, and with your hive tool remove the cover and the mat. Give a puff of smoke across the frames—not down them—which will send the bees off. Do not use too much smoke; if the weather is at all good and the honey flow on, one can handle bees almost without any smoke. Remove the frame nearest the side, and, if capped over half to two-thirds down on both sides, shake the bees off in front of the hive, and place in the super on the wheelbarrow. Every comb that is well sealed over treat in the same way, then place all those that are left in the hive together, so the bees will not start building combs in the spaces where the frames have been removed. Do not remove any combs that are not capped over, as the honey contained in them is not ripe, and if extracted might set up fermentation of the whole crop.

The extracting shed should contain the extractor, which should be on a platform sufficiently high to allow a pail under the outlet, the whole firmly screwed to the floor by anchor rods. The tank should have a strainer made of fine wire gauze, into which all the honey should be poured as it comes from the extractor. The uncapping box can be made from an empty super or larger box having slats of wood ¼-inch apart nailed on the bottom for the honey to drain through, this being placed in a receptacle to catch the honey. Across the top of the box place a piece of wood about two inches wide, having a nail driven in on the under side so that the point comes up about ½-inch. If you want to do quick work and make a nice clean cut off your combs, have your uncapping knife resting in a pan of hot water on an oil stove.

To uncap the combs, place one of the end bars on the nail point to steady it, then with your hot knife start at the bottom of the comb and cut upwards with a sawing motion, holding the comb at a cant so that the cappings fall away from it.

Place your frames in the extractor, and with a few turns just partly empty one side, else if you thoroughly empty at the start, the weight of the honey on the reverse side will break the backs of the combs; so just half empty them for a start. Then reverse the cages, and completely empty the reverse side of the comb, and reverse to the original position and complete the extraction.

The honey in the tank should be covered with a cloth to prevent flies and moths getting into it, and should stand for at least 48 hours; then it will be found to have a whitish scum on the top. This should be carefully skimmed off before tinning, and your honey is fit to market. Do not leave honey exposed to the atmosphere for any length of time, as it thereby loses its aroma.

F. C. B.

District Reports.

AUCKLAND PROVINCIAL BRANCH.

We are glad to be able to report a good rain and a few good bee days, and are hoping it will revive clover somewhat.

A meeting of H.P.A. shareholders was held here on the 11th December. It was very poorly attended. It is rather discouraging to find so little interest taken in the Company's affairs.

I had the pleasure last week of a couple of days work with Mr. Young, our newly-appointed inspector. He strikes me as being a "live wire." He expects shortly to be transferred to this district.

Re melter competition suggested to be held at our Field Day, Committee cannot see their way to offer a prize, but will give all assistance possible to have machines demonstrated.

List of Library Books Available.—"Beekeeping" (E. F. Phillips); "The Love of the Honey Bee" (Tickner Edwards); "Quinby's New Beekeeping" (L. C. Root); "The Flower and the Bee" (John H. Lovell); "The Townsend Bee Book" (E. D. Townsend); "Management of Out-apiaries" (G. M. Doolittle); "Scientific Queen-rearing" (G. M. Doolittle); "Advanced Bee Culture" (W. Z. Hutchinson); "Alexander's Writings on Practical Bee Culture" (H. H. Root); "Langstroth on the Honey Bee" (revised by Dadant); "Extraction of Beeswax" (F. C. Alford); "Productive Beekeeping" (F. C. Pellett); "Feeds and Feeding" (E. R. Root); "The Use of Honey in Cooking" (A. I. Root Co.); "Modern Queen-rearing" (M. I. Pritchard); "The Beekeeper and Fruit-grower" (E. R. Root); "Flowers, Bees, Fruit" (Alliance Box Co. Ltd); "Diseases of Bees" (A. I. Root Co.); "A Thousand Answers to Beekeeping Questions" (Dr. C. C. Miller); "Beekeeping for Beginners" (F. C. Baines); "American Bee Journal"; "Gleanings"; "A.B.C."; "Australasian Beekeeper" as soon as they arrive.

A. H. DAVIES.

Hamilton, 15th Dec., 1919.

TAIERI.

Who can tell of the relief and consolation brought me by "Canterbury Tales" last month. Brother Ward, we are comrades in adversity. A burden shared is a burden lightened. We shall some day gather at the "Tabard Inn," and sink a cup from Mine Host in commemoration.

'Tis difficult to judge, even now, of prospects here. One never knows what is coming next. The vagaries of the celestial turn-cock are delightful. Last week we were treated to a fall of snow, and rain is no stranger. The weather is such as to allow the bees little chance of doing a hard day's work out of doors.

Negotiations are in progress to arrange for a demonstration or a Field Day in the Taieri. Location not yet settled, but definite news can be supplied later.

We hear with regret that another of the pioneers has retired from the industry—Mr. McLeod, of Outram, who, in days gone by, was one of the largest producers in the Taieri. Kia Ora!

BASIL H. HOWARD.

Mr. A. B. Trythall says:—"The Beginners' Handbook is a very excellent one." Post free, 1/7.

Canterbury Tales.

By E. G. WARD.

In last month's issue the word "disciple" occurs. Many who do me the honour of reading my contribution will say, "What the dickens does he mean?" Others who are good at guessing will say, and they are right, "Oh, he means himself." I tried to give the nigger phrase "dis chile," but perhaps the compositor was not good at reading bad copy, and did his best.

Let us talk about the weather! Some people say the seasons are changing, and if conditions continue as at present, I shall soon be a convert to the doctrine. Just listen! We had snow on the Cashmere Hills on 2nd September, 2nd October, 2nd November, and 2nd December, and, just as a kind of reminder that she had made a mistake, Nature gave us the hottest day of the season on 1st December. But another extreme was reached on 5th December, for we had a frost which played havoc with all tender vegetation, and made the clover, which was coming along nicely, look as if a fire had been through it. I call to mind that this is the third season in succession that Canterbury Plains have been visited by frost just about this time. Truly, we need lots of faith and hope (and work!) if we are to get a crop.

I am now settled at Lakeside for the season, and have "knocked things into shape" somewhat. From what I can learn the bees in my district have wintered well, and are "eager for the fray." If the weather warms up the crop should be good, for clover is plentiful.

Of course, we all have an eye to the "main chance," and circular No. 6 from the H.P.A. set me thinking in this direction. It is very good reading, and I'm persuaded the Major is the man to put our money on; but for all that when we bear in mind that the cost of living shows no sign of declining, I can well understand Brother Jones' feeling of disappointment when he woke up from that pleasant "dream." We must exercise that virtue "patience," but when I talk "shares" in the H.P.A., and am told I got 6½d. nett for last year's honey, and 6d. nett for some I had from the previous season, I feel somewhat "dazed." I know we're on the winning side, and are making the price for all and sundry; but, oh, don't I long for the day when these people will have to sell to the Company.

The following appeared in a local paper recently:—"The export value of (N.Z.) honey for the twelve months ended March 31st, 1919, was £32,918. The quantity passing through graders' hands for export for the same period was 6,691 TONS—all for England." Poor graders! I'm sorry

for them if it's true. I wonder if the printer had been "dreaming" too, and read "tons" for "cases"?

Inspector Dick paid a visit to Lakeside last week. I said he had a keen eye for box-hives, and I'm right, because a neighbour came to me for foundation to fill his frames before transferring. Incidentally I may say the "offender" is not such a bad sort after all, and spoke well of Mr. Dick's tact in dealing with his transgression of the law.

I am curious to know if that appliance for cutting through the comb in queen-raising is going to revolutionise the raising of queens. I doubt it. If you want queens raised from undisturbed larvæ, why not adopt the original Alley plan and be done with it? Or try Dr. Miller's method of giving a starter to your best breeder. Or refer to the "Beginner's Handbook," where the comb is cut like big saw-teeth and cells built on the edges, as advocated by Mr. Gibb and others. Personally, I like the Swarthmore flange cups filled with the Doolittle cell cups. I like the flange cups in preference to the Root cups with nail-point, as there is no danger of them falling off the bar. As to queens raised from transferred larvæ, I find I get just as good queens raised this way as when the bees carry out the whole of the contract. A steady hand and good eyesight are all that is required, and if your eyesight is not good (like mine), do as I do—use two pairs of spectacles, one in front of the other. The mating of the queens is my "rock ahead." I am surrounded by black bees, and if you know the number of drones that are reared in the hives kept by the average farmer-beekeeper, you will not wonder at my getting such a large percentage of mismated queens. I bought 40 colonies of black bees last year, and shall re-queen them this season, I hope, so there will be that many less black bees in the district. I learn also that some 30 colonies of real good Italians are located near by, and am now looking forward to having better luck in the mating line.

I join with ye Editor in wishing all and sundry the compliments of the season, and a bumper crop to boot.

The Honey Market.

(By FRED C. BAINES.)

We made a few comments in the December issue relative to New Zealand honey fetching the top price on the Liverpool market, as shown by Messrs. Taylor and Co.'s report, stating that it would indicate a substantial bonus coming to the shareholders of the H.P.A.

An interested gentleman sent me the following query:—"What price do you think New Zealand honey would realise if the B. and D. unloaded 5,000 cases on the market?" That is a very pertinent question, with an obvious answer.

Now we have another aspect of the case, as shown by the following copies of letters received by the Wellington manager of the B. and D.

21st August, 1919.

The General Manager,
Bristol & Dominions Producers' Association Ltd.,
Wellington

Dear Sir,—

Honey.—We wish again to call your attention to the way the honey is being shipped from New Zealand at present—viz., that in so many instances the lever tops are pushed into the tins without any care being taken to prevent them coming out, with the result that an alarmingly large number of tins are arriving here with the lids out, and the consequent result of a heavy loss in weight. The honey, though solid when it left New Zealand, due no doubt to coming through the tropics and the excessive heat that has been obtaining in this country for the last month, has become liquid, hence the leakage. Please bring this matter very forcibly before the Association. Necessarily we are keeping a record of the producers' numbers where this has happened, as we certainly cannot stand the loss ourselves, and we have no claim on the railway or the ship.

The enclosed letter from Messrs. A. J. Mills and Co. offering us honey may be of service to you. You should bring it before the notice of the Secretary of the Beekeepers' Association.

Yours faithfully,
(Signed) A. E. M. NORTON.

19th August, 1919.

The Bristol & Dominions Producers' Association Ltd.,
Bristol.

Dear Sirs,—

I am to-day offering various parcels of Australian and New Zealand honey at 70/ ex London and Liverpool, and shall be glad to hear if you are interested, when I could provide you with samples if necessary.

Yours faithfully,
(Signed) FRANCIS NARNARD.
(A. J. Mills & Co.)

On the question of leakage from the tins, this is a very important matter, and one that under the present regulations is right outside the individual shareholder's power to avoid. The shareholder no doubt takes every care that the lids are well pressed down when he ships his honey to the grading store, and that is as far as he is personally responsible. The lids must be lifted by the grader, and unless they are well pressed down after he has graded the honey, the trouble is bound to occur. We are not accusing the graders of not seeing that this is done properly—no doubt they do; but it is pretty hard on the shareholders to be called upon to pay for any

leakages that are caused by lids coming off when they had nothing whatever to do with it, and cannot be legally responsible. Personally, we have found a small piece of wood placed on the lid that comes just the height of the tin prevents the lid springing. The only solution of the difficulty as far as we can see is that screw-cap tins must be used; then there can be no leakage on this score. Consequently all claims for leakages will have to be borne by the H.P.A. and debited to profit and loss, which, of course, means we all have to pay. Therefore it is necessary that the H.P.A. and the Department arrange matters to have the regulations governing the export of honey altered, as the present package has proved unsuitable.

The letter from Messrs. Mills and Co. is very serious reading, and we wonder who the beekeepers are that are exporting to them. How can we expect our agents in England to return us somewhere about £100 per ton, when New Zealand honey is being offered them at £70? Surely the nett return to the exporter cannot possibly be more than the advance paid to the shareholders of the H.P.A. at the time their honey is graded. Their advance equalled £46 12s. 4d. per ton. Now, supposing the honey is sold by Messrs. Mills at £70, the charges would be:—Freight to London or Liverpool, about 2d. per lb., £19 13s. 4d.; wharfage, dock dues, &c., &c., would come to about £3; 2½ per cent. commission, £1 15s.; bill of lading, insurance and exchange, quite another £2, making a rough total of about £26 10s., which, if deducted off your £70, brings your nett return to lower than the advance made by the H.P.A.

What a fool's policy it is! We hope those who exported the honey will read this article, and sit up and take notice. What is the use of the majority of beekeepers banding together to improve and stabilise the markets, when these "snags" come in with their wrecking policy? By staying outside the Association they do not realise the prices they would by coming in; also they prevent those who are in earnest to help them to obtain the best possible price for their honey from achieving their object. It gets us beat.

A Few Passing Notes From the President.

The November number of the Journal is to hand, and we have just run through it. We confess to a feeling of satisfaction with Editor Baines' work. There is evidence of growth in all directions, and it seems to me now that the Journal will just be what we as beekeepers choose to make it. If we assist the Editor, there is abundant evidence that he will respond, and the result will show in the growth of the Journal. We want a few more E. G. Wards, and if they have got a wheelbarrow to push—well, so much the better. Glad to notice that shout of "Hurrah!" that the Conference is to be at Christchurch.

Apiary Boundaries.—This question has been advanced a step by the Committee's report, and the clauses submitted to the National Executive, but so far no one has given any favourable comment; and we very much doubt if the Committee have taken in the full meaning of their own clauses. Further consideration cannot be given to this question before the Executive meets at Hamilton on the first Wednesday of February.

Ruakura.—We read with interest the Editor's notes of his visit to Ruakura. The State Apiary, with "Professor" Trythall at its head, will, we feel sure, leave its mark on our industry. The man who believes in "infection" as a means of spreading bee fever, and who grips his students on the tennis court and in the concert room will not only be popular, but will also make beekeeping popular.

Taieri.—That old familiar name, Basil! I was born in the Taieri. True, it's a long time ago, but still I am a Taierian. I cannot help you with those fairy tales, but go on. You have a touch that is all your own. We will read them, and enjoy them.

The Bray Correspondence.—We think this is a page to turn down. We are sorry to see so much energy run amok in this way; but as long as Mr. Bray retains his present attitude, he is no good to himself or anybody else.

Mr. Braithwaite.—I cannot find any excuse for the "go-slow" policy. It is a sin against all that is decent. Let me tell you that there are no poor bees except those that have got foul-brood. Smoke never hurts them if it is properly used, and bees never grudge to us their surplus. If we take too much away, then we hurt ourselves. With regard to directors North and South, in the National the division is equal now; but I rather think you refer to the H.P.A., and in doing so you open up a big question. My advice to shareholders big question. My advice to shareholders in this is, get the best men you can get, irrespective of where they live. The management of our H.P.A. just now and at all times requires the best brains we have got, and it also requires a better business training than most of us have got.

Petrol Tins.—Mr. Jacobsen thinks that the men that use them are more to blame than the petrol tins, and that all have got to suffer because of the careless, and we believe he is to a large extent right. If we could all make as presentable a package as Mr. Jacobsen at Conference showed us how to do, then the ire of the Department would not probably have made itself felt so quickly. We ask this question: Will these same men who compete for gold medals with honey in tins dirty

and black pack their own honey in any tin or case that will be presentable beside Mr. Jacobsen's? We say not, and that satisfaction will never be got until the depot system, with delivery in returnable containers is adopted, and the packing is done at the depot.

Now I have reached my limit for this time, but I hope to meet a lot of beekeepers at Hamilton in February, and that much will be said and done in the interests of our industry. It is a long way to travel from Southland to Hamilton for meetings, but I feel that it is a duty, and will certainly try to be there.

J. A.

[This should have appeared in the December issue, but arrived too late.—Ed.]

Apiary Boundaries.

(TO THE EDITOR.)

Sir,—I think it is a great pity that discussion of the above subject should have been invited in the Journal before the matter had been fully discussed by the Executive of the National. When such men as our worthy President and Mr. Hopkins adversely criticise a scheme to prevent dumping, everyone but those who actually know naturally conclude that these gentlemen have had all the details of the scheme and a full report of the Committee's work in Wellington placed before them. Such, however, is not the case, for their criticism is proof of it. Mr. Hopkins, in particular, has been jumping to conclusions which he would never have arrived at if he had known all the facts, and his ridicule is quite misplaced and wide of the mark. I consider, therefore, that these gentlemen have written in a way that is likely to prejudice the success of the scheme for lack of full knowledge—the cause of their premature thought. Mr. Hopkins has not done one iota to help the industry to regulate or prevent this grievous matter of dumping. He throws cold water and colder ridicule on every suggestion put forward, and does not take the matter seriously at all, but is content to support that Teutonic theory of "the survival of the fittest." I wish to say again, however, that there is a very strong feeling amongst a lot of our ablest beekeepers that something ought, or, rather, MUST be done, and, Sir, I submit that the scheme as presented will prevent unfair dumping by commercial men, and will lead to a much more harmonious feeling between them too.

Before I discuss the clauses, I would like to say that the big difficulty raised by both critics in regard to the working of the scheme is only an imaginary one, for, firstly, the heads of the Department expressed hearty support of the scheme, if—(mark you, if!)—the beekeepers would take full control of it. The only work entailed on the Department would be the collection of license fees and the hearing of those very rare cases of final appeal. Secondly, the Executive of the National would be appealed to only in cases where the local Branch had failed to satisfactorily adjust sites. It will be seen from this that the President's fears for you, Sir, and your Executive are groundless, for the main work is to be done by the local Branches, who are undoubtedly the best qualified to judge the capabilities of their respective districts. The whole scheme will be in the hands of the Association, as it should be, and I know of nothing that will lift the importance of the National in the estimation of beekeepers so much as would the hearty support and application of this scheme or an amended one.

Clauses 1 and 2 appear to meet with the semi-approval of our conservative friends, but clause 3 chokes them somewhat. Well, I have already answered Mr. Allan's and Mr. Hopkins' objections to this clause, which are all based on a misunderstanding of the position. Clause 4, however, is a clause that requires a great deal of thought, for at first sight it looks to be one likely to operate against the beekeeper rather than in his favour. Let me here explain that the officers of the Department very wisely pointed out that before we could hope to get any new measure regulating apiary sites through Parliament, we would have to insert a clause insuring the protection of bona fide farmers. The Committee could see the force of this, and made it quite clear that their grievance was not against the farmer, but against the unscrupulous bee-pirate. Very well! The Committee suggested that if in the event of a commercial apiarist holding an out-apiary site in a locality where a farmer desired to keep a large apiary, that such commercial apiarist should withdraw within a given time—that is, on a sliding scale; as the farmer's apiary increased the out-apiary should decrease in ratio. Nothing could be fairer to the farmer; but please bear in mind this clause would not operate in the case of any home or out-apiary being located on freehold or registered leasehold, so that a farmer starting an apiary near an apiary already occupied on these tenures would simply have to contest the situation, as prevails at present. You will see, however, that we have got the bee-pirate fixed by this, providing we can prevent him finding a loophole by working the farmer's apiary. Hence the need for clause 5. Personally, I think the whole difficulty pivots here, for we restrict the farmer somewhat in restricting the bee-pirate. However, it is for the protection of commercial apiarists, and, therefore, in the interests of the industry, so if the law officers approve why should we object?

I do not wish to occupy any more of your space just now, Sir, but in conclusion I repeat I am very sorry that this whole matter was not thoroughly gone into by

the Executive and their finding reported before such erroneous conceptions of the Committee's work had been presented to the readers of our Journal. As both you and the President have observed—"Criticism is very easy"; one could ridicule a man for saying the earth is round; but, Sir, while the Committee sincerely invites candid criticism, it would like unbiassed criticism. It must be apparent to the humblest of your readers that the Committee appointed by Conference could not be guilty of such ridiculous findings as one of your correspondents makes out, when it had the keen and able advice of such men as Dr. Reakes, Mr. Kirk, and Mr. Pope.

Awaiting the coming storm called "Criticism," due to arrive in the course of a month, and which may be general over the whole of the Dominion as the result of two unusual solar disturbances.—I am, &c.,

CHAS. F. HORN.

P.S.—So I would debar everyone but commercial apiarists from keeping bees, friend Hopkins? No, no; read again! Another misunderstanding!—C. F. H.

* * *

(TO THE EDITOR.)

Sir,—Many thanks for your reasonable and kindly criticism of the six clauses of the Apiary Boundaries question. Mr. Jas. Allan and Mr. I. Hopkins do not seem to grasp the full meaning of them at all.

Clause 1.—Ten colonies or more shall constitute a commercial apiary.

Clause 2.—Every commercial apiary and out-apiary shall be licensed. That clause distinctly states that a COMMERCIAL apiary shall be licensed. It does not state that no person can keep bees without a license. It simply means this—that anyone may keep bees where and when he likes up to 9 colonies, and continue to register same.

Clause 3.—Before any new apiary or out-apiary can be licensed, &c.—Now, as it is only commercial apiaries and out-apiaries that are licensed, there is nothing in this clause either prohibiting anyone running up to 9 colonies if he so desires. "The Executive of the National shall examine the site," &c. Well, Mr. Allan, they won't require a Hanley-Page flying machine. As the National Association is made up of local Branches, the local President and Committee, who are on the spot and know, or ought to know, the carrying capacity of their district, can examine the site and report to the secretary.

Clause 4.—Every bona fide farmer, &c.—A fearful howl went up a short time ago. You can't dictate to any man what he shall do on his own property. I have before me at this moment a letter from Mr. J. L. Byers, of Markham, Ontario, in which he states that he knows of cases where a farmer has become interested in a few hives of bees, and gradually drifted on until he found himself into the bee business large. Must we make no provision for this man on his own farm, probably a freehold? Mr. Allan states in a previous issue of the Journal that he would sit tight on anyone establishing a yard near a home apiary I may term it. Sitting tight won't do any good. The type of individual that we find as a bee-pirate would most probably politely but firmly tell the owner of the home apiary to go to —— and sit tight there. I mean no disrespect, but such is the case.

Clause 4 continued.—Notice shall be given to such apiarists, &c., to remove within a specified time.—Surely that is plain enough. This simply means that the offending out-apiary shall be decreased as the farmer increases his yard, unless the offender is on a registered leasehold.

Clause 6 (appeal).—You must have an from occupying the site in the farmer's name.

Claues 6 (appeal).—You must have an appeal.

As our apiary instructors have more work than they can possibly get through, it would be, to my mind, impossible for them to examine all sites. Unless an appeal was made he would not be required.

Here is an opportunity for the National Beekeepers' Association, backed by Parliament, to govern its members, which is evident it will never do otherwise.

Last August I circularised many of the most prominent beemen all over the world on this question. Replies are not all in yet, but as I have asked and received permission I shall publish the lot. They form very interesting reading.

Re paper "Do Queens Mate More Than Once?" I have purposely waited until this spring for further evidence. I've got it, and a witness to prove it—two virgins and a laying queen.

Feel fatigued to-night, and may not have done justice to the Apiary Boundaries question, but shall later.—I am, &c.,

R. H. NELSON.

Haungaroa Road, Martinboro, 15/12/19.

* * * *

(TO THE EDITOR.)

Sir,—After reading the proposed clauses of the impossible fad of apiary boundaries (and when I use this term I do so with a very expensive English experience as to how far law can go in the matter of prevention of productive industry), I am all but hopeless that we can expect any results worth while from the haphazard Committee appointed.

The clauses under review are, on the bare face of them, and without analysing them at all, about as absurd and impossible from a legal point of view as they well could be, and from the point of view of benefit to our industry they just about come up to comic opera standard. This business of apiary sites control is far and away the most vital matter affecting our industry that has ever come before us,

not excepting any other issue whatever, and if we are going to leave it where it is at present we may well tremble for our livelihood.

When it is solemnly proposed to legislate that any ill-disposed individual by placing ten hives of bees on his farm within a mile of my out-yard, which is on Maori Kainga land—unoccupied, but by law absolutely impossible for any party to either lease or rent—can with his trumpery ten—perhaps utterly neglected—hives of bees, compel me to remove my whole 200 colonies, one may be excused for asking if the proposers of such ill-considered propositions were drunk at the time; certainly it is hardly fair to suggest they really meant such an absurdity. Why, let me ask, make a paltry ten hives a commercial apiary? If a farmer wants to keep bees commercially, why not put him on an even sterner basis than the beekeeper, seeing that the farmer has another occupation, and the apiarist has not? If a man with already a distinct vocation wants to engage in a business which will result in another man engaged in a similar business removing from the locality, it is only British fair play to make the new fellow start in as large a way as the one he compels (for his own private benefit, mark you!) to bear the expensive cost of removal. Now, candidly, does any reader suppose that if I give evidence to such effect before the Stock Committee of Parliament—as I assuredly would do if such idiotic proposals ever got so far—that an intelligent body of Parliamentarians would recommend such a clause? If those who are wedded to apiary sites control can materialise no better proposals than these, their opponents need not worry much.

Readers can take it from me that Parliament will never pass any legislation which seeks, as the site-control people are seeking, favours for one special class. They will, of course, maintain that, if it is good enough to give protection to one industry, it is so in most other cases, and so let the grocer, the baker, the chemist, and all such seek similar protection, for their experience of overcrowded territory is exactly the same as our own, with this difference—that the tradesmen's failure is a total one—viz., bankruptcy; the beekeeper's is not.

Again, the apiarist has too many remedies (and to a Parliamentary Committee this counts as a knock-out blow) that he can put into effect if some unfair individual butts in too close to him; and what I do not like about this agitation is the cowardly (that is the only term I can find for it) cringing at what is only the great natural law of our existence—the necessity to bow to the survival of the fittest. Our site-control faddists are not of the mettle that can fight and win. Every one of them can play the interloper's own game of overcrowding, by placing enough of his own colonies so close to his opponent as will make the interloper very sorry he adopted such caddish tactics; and see here, when those who will have the passing of your proposed legislation are shown that you have such a remedy, and are only seeking a law to save your putting up that fight that every man admires, your site-control agitation will meet that fate which, in its present imbecile garb, it obviously deserves.

The Imperial Valley apiarists in California solved this butting in problem before it ever commenced. They all agreed to loan a small proportion of their colonies to be placed close enough to the yard of any interloper to make it unprofitable for him to continue. Needless to say, it had only to be administered once. The bare fact that such an action would be taken was quite enough for any intending interloper, and while you site-control people can do the same, don't you think that our legislators will adopt as law a cumbersome system of licensing and inspection of localities, with all its attendant heartburnings (which are bound to accrue to such a dragooning system), while men possessing at least more business ability than the product of the elected Committee has evidenced, will make it their business to put the actual facts of the case before them? I do not know the name of a single one on the Committee, but I do as a reasonable man give them credit and thanks for doing what we are bound to consider is their best; they cannot be blamed for lack of that commercial experience they evidence; but whosoever's feelings I unavoidably wound, I want to draw the serious attention of every member of the National Association to the necessity of paying much more serious attention to the voting for members of various officiating bodies in connection with our serious business matters. There is much too great a proneness to merely call out "Aye" to each and every proposition put by the President upon each and every occasion, when the majority of those so voting may (and usually do) have no more idea of the particular person's fitness for the job to which he is being elected than they have of the integral calculus. This should not be, for some time you will reap the inevitable result, as you might have done in the present instance.

I detest to have to write in this apparently bitter and overbearing style, but when such serious proposals are propounded as the present suggested robbery of our rights under the ever-glorious British Constitution as are here under criticism, it is high time to take off the gloves, and get to plain (if necessarily unpleasant) language. And I feel certain that all liberal-minded readers will agree, and accept these remarks as intended to deal the knock-out to a dangerous menace to our already sorely-tried industry. If the idea is worth wasting more time over (for the root principle of the idea can never become enforceable law), the present clauses should be abandoned, since there is nothing worth retaining in any one of them. The law officers' idea of site-control is a very different one from what the propounders of this idea think it is. The Crown Law

Officer has no suspicion that it is class legislation that is being sought, with the idea of eliminating commercial competition in a productive industry; and when this fact becomes clear to him, some people will meet with a very sudden enlightenment on the matter, as well as an equally keen disappointment.

This matter will have to become the result of the collective deliberations of the various Branches as a whole. To have confined the suggestions to one single Committee, as is abundantly obvious, was a very ill-digested consideration at best, thus bearing out my remarks anent the voting for such bodies, and, furthermore, to have practically denied the possibility of the Branches possessing at least as much claim to the possession of original ideas as a Committee might have had, was evidence irrefutable of illiberality of mind. What is wrong with the mentality of our Branch members that no suggestion should have occurred that each and all should have been invited to exchange views and ideas on the matter, and then, toward the time of holding the Conference, have each held a special meeting at which to decide upon which several clauses to advocate? By this means we should obtain a straight-out vote of the minds of the whole National Association on the subject. As it is now, a few Branches have submitted bare remits to the Conference, and those who have not are to abide by the decision of a mere Committee. There will never be satisfaction under such a lax system (?) as this.

I suggest that every branch of the National be requested to hold special meetings for the discussion of this matter, and remit their deliberations to every other Branch, then convene a final meeting, at which to decide what to adopt and what to oppose, and that the Branches appoint each a delegate to the coming Conference to vote on the matter, and that such voting be regarded as final. The Conference should be, as much as anything, an assembly for the final consummation of subjects already decided upon by the apiarists of the Dominion at their several Branch meetings—i.e., by all such Branches, whereas at present they partake far too much of the nature of indefinite debating societies. We do not sufficiently define and classify the business. Again (but this is apart from my subject) there is a lot too much beginner business at our Conferences, and this is what so largely wastes time there. Let the information for all novices be given at some other part of the building, and then we shall not have so much of the haphazard and immature-minded voting that at present is the reason of much of our non-success, and which (I have had several admit to me) keeps away from the Conferences quite a number of our best and brainiest members.—I am, &c.,

H. BARTLETT BARTLETT-MILLER.

November 20th, 1919.

[Friend M., is there any Irish blood in you? You state that it is time to take off the gloves and get to plain (if necessary unpleasant) language! Well, well!—Ed.]

Correspondence.

[The publication of any letter does not necessarily imply our agreement with the subject matter, and we do not hold ourselves responsible for the opinions expressed by correspondents.]

(TO THE EDITOR.)

Sir,—December number: A Mean Theft. Please correct error about two-thirds way down, "At present," &c., "and that during a 'heavy' flow." This should be during a "honey" flow. There have been no heavy honey flows so far this season.

I had rather expected to see some comment from your pen with respect to the above, as my experience may be that of others next feeding time. This is something the National could take up, and approach the Minister for Justice for full enquiry. At present the police are quite apathetic.—I am, &c.,

J. S. COTTERELL.

Manawanua, via Te Aroha, 16/12/19.

[We hardly think you will be troubled again, friend Cotterell, as the thief would know you were on the "qui vive." Sugar syrup, being such an absolutely useless thing in the commercial sense, the theft must have been committed by a beekeeper, and one presumably in a large way. It is certainly a most unusual affair, and we are inclined to ask, Who are your neighbours?—Ed.]

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(TO THE EDITOR.)

Sir,—I am having a most peculiar experience with one of my hives, being the new hive on an old stand after treating for increase under the Alexander method, and which, of course, contained the old queen. On the 26th November I examined and found it queenless. Could not find dead queen, for she must have died in the hive, as she could not get out, as I had not then taken the Alley trap off. However, there was no brood, sealed or unsealed, only four capped queen cells. I cut out three, using them to Italianise black hives. One hatched; two weren't accepted. The other one I left in the hive to hatch out in the queenless colony, and I found on examination (1st December) that it had hatched, but could not locate the queen. I re-examined the hive to-day, expecting to find some eggs, but without success; but what do you think I found? I found three worker cells with larvæ in them just about ready to cap, but not a sign of anything else; not even did I see the queen. I then visited the black hive, to discover if the queen from the transferred cell had begun to lay, but could find nothing of eggs or larvæ. I saw the queen trotting about on the frames quite at home. Seeing there were no eggs here, I concluded I was a little too soon to expect them, so will have to wait for a later examination. The query is: Where did those three larvæ come from? I am in a quandary as to what to do, as honey is coming in pretty

freely, and I have no young brood to take up the work during the main flow three weeks hence. The colony does not seem to have slackened off work. There is about 20 to 30 lb. in the top storey, but they seem to have given up taking it that far, for the brood chamber is as near to being full as if it were a top super. The frames are capped for more than halfway down, and every cell pretty well contains honey excepting a few with pollen stored. I am dead keen to see that young queen lay so I can get that brood chamber full of brood—that is, if she is there, and I am beginning to have my doubts, though there is consolation in the fact that the other has not yet commenced.

This is not the hive that swarmed out after treating. That one is going ahead like wildfire; she has two 56's and one 28 on, and I hope to get them more than filled before the season closes.

With kind regards,—I am, &c.,
GEO. M. BLIZZARD.
Picton, N.Z., 10th Dec., 1919.

P.S.—Would like to see an inspector round this district. I think him fin' plenty foul-brood.—G. M. B.

[Those three larvæ are certainly puzzling, but we hazard a guess they were laid by the young queen. Young queens do funny things sometimes, often laying two and three eggs in a cell. It seems to take a day or two for them to get into their stride. Probably by now she is doing her business properly.—Ed.]

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(TO THE EDITOR.)

Sir,—A short while since I had a long conversation with Mr. W. Herrod-Hempsall, Chief Expert to the British Beekeepers' Association, on general current bee topics, and he told me he was quite certain that they had the dreaded Isle of Wight disease in America, and that the disease they have in Australia is one and the same, although called by another name. His information is without doubt to be relied upon, for his correspondence as Editor of the British Bee Journal is of a world-wide character. The disease was presumably introduced into Australia through the importation of queen bees from America. I think you will agree with me that the N.Z. Department of Agriculture should be urged to carry out the resolution passed at the last Conference without delay, viz., "That no queen bees should be introduced into New Zealand from countries where Isle of Wight disease is known to exist." Its ravages in England have been enormous, foul-brood in comparison being of very minor consideration.—I am, &c.,
W. HOOPER TEED.
Downe, Orpington, Kent, 8/11/19.

I believe the Beginners' Handbook will prove a very useful little book for the beginner, and congratulate you on your work. —G. V. Westbrooke, Apiary Instructor, Auckland.

(TO THE EDITOR.)

Sir,—I am enclosing two cuttings taken from recent numbers of the London Daily Mail, as I thought they might be of use to you in regard to bee superstition. I may state another curious belief held by old-fashioned beekeepers in the South Midlands of England—that is, that if one's bees are not doing well, it is necessary to go and stand in front of the hives and sing a psalm, after which the bees are expected to build up and prosper, and on good authority I can vouch for this having been done; but as to whether the charm worked out right or not I am in ignorance. In conclusion, I must state that I greatly appreciate the Journal, and wish you every success with it.—I am, &c., A. C. READ.
Darfield, Canterbury, 12/11/19.

A WOMAN THE BEES LOVE.

(To the Editor of The Daily Mail.)

Sir,—Your correspondent, in his pleasant "Summer Diary," asks whether he is right in supposing that the beating of tin cans makes bees swarm. I am an old countrywoman; my knowledge of bees goes back nearly 60 years, and as I have always had a positive affection for them, I would like to answer his question. The rough music made by a warming-pan and the door-key is generally what they use in country cottage gardens, not to make bees swarm, but to drown the voice of their young queen and leader, so that they have to settle near instead of flying away for miles, as they will sometimes when it is quiet. When a young swarm is ready to leave the parent hive, if you listen at the back of the hive after dusk you will hear a single bee, presumably the young queen, make a clear and distinct trumpeting noise at intervals of a few seconds. They are sure, when that is the case, to swarm the next morning, and I believe the queen keeps up that sound until the swarm finds a suitable resting place; hence the racket to prevent her orders being heard. Old-fashioned country people never buy or sell bees with money, but always in kind, else they say they won't stay with the purchaser. My mother gave a pig six weeks old for her first hive. They also say that when the owner of bees dies, unless they are told of the fact they will all disappear. A remarkable thing happened to my grandmother many years ago. When she lay dying her bees left the hives, and, coming through the open window of her room, settled upon the curtains of the four-poster bedstead on which she lay, and directly she passed away they all went back through the window, but not to the hive. They disappeared. Bees sometimes show a very marked dislike to certain people, especially old people, and animals. I have hived swarms without any covering on my face or hands, and have never been stung in my life. I can handle them with impunity now I am old, which I always do if I see one in any danger. I suppose they know from instinct that I love them. BETSY POWNER.
Rosebank Cottage, Broseley, Salop.

BEE SUPERSTITION.

(To the Editor of The Daily Mail.)

Sir,—Beating a tea-tray or tin kettle with a door-key was once a common practice among Wiltshire beekeepers. It was not done with the idea of keeping the bees at home, however. When he saw his bees leaving their hives, the beekeeper made this noise as information to his neighbours that the defaulting bees were his property.

H. COLLINS.

Weymouth.

(To the Editor of The Daily Mail.)

Sir,—Your correspondent who refers to a piping noise made by the "young" queen-bee and implies that the queen is giving her orders is mistaken. This is an exploded theory. It is an old queen that makes the piping noise at swarming time. When a hive is getting overcrowded the workers proceed to raise a new queen to carry on when the old one has swarmed. If the old queen has swarmed several times she may refuse to swarm again, and will try to tear the young queen (not yet perfect) from her cell, and if prevented from doing so by the workers she makes this piping noise in her anger.

J. W. C. WILLIAMS.

Cirencester.

[The clippings are interesting, friend B., Betsy's yarn particularly so. No wonder her grandmother died when the whole apiary was hanging on her bed-post! On the question of clanging tins for a swarm to settle, we are of the same opinion as Mr. Collins. That is a very simple remedy for improving a hive that is not doing well—standing in front and singing a psalm, after which they prosper. We tried singing the 118th, but when we came to the twelfth verse, which says, "They came about me like bees, and are extinct as the fire among the thorns; for in the name of the Lord I will destroy them," the bees "sort of took it personal like," and during which (not after) we got peppered. These old-fashioned ideas won't stand investigation.—Ed.]

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(TO THE EDITOR.)

Sir,—In the handling of a number of hives, one comes across such extraordinary things at times that it is no wonder we hear stories of queens being mated within the hive, &c. I have this season come across a rather peculiar case, and am wondering if any of your readers have ever had a similar experience. The hive in question was at an out-yard. Fairly early in the spring, on overhauling, I noticed that this hive had several combs well filled with eggs; all the other hives had brood in all stages, while this hive had only eggs. On examining some weeks later, I was rather surprised to find this hive with only eggs again. I thought at the time that the brood must have all emerged, and the queen for some reason had left off laying for a time, and just started again. This time I made special note of the date, and examined again in ten days. Imagine my surprise when opening the hive to again find nothing but eggs. There was not a sign of a hatched larvæ or brood of any description. The queen was there, and looked in every way perfect, and the eggs were laid very evenly, and several combs were well filled. Ten days later I found exactly the same conditions. I then shook all the bees on to a fresh set of combs, and placed the combs with eggs over another hive. On examining again ten days later I again found eggs in the fresh combs, and on going to the hive to which I had transferred the original combs, I found that the eggs had apparently been cleaned out. The queen had come up and was laying in these combs, and there was brood in them, but none sealed over. If the eggs which I had put there had hatched the brood should have been all sealed over by the tenth day. I have come to the conclusion that these eggs failed to hatch into either drone or worker. I have destroyed the queen that laid these eggs, and given the bees a frame of brood and a queen-cell, and shall await the result with interest. Of course, the bees in this hive are now getting pretty old and growing less in number; but if the young queen gets mated there will still be a fair number of them left when she starts laying. Now, can any of your readers explain this?—I am, &c.,

H. C. TAYLOR.

Stratford, 2nd December.

[One comes across a queen now and then whose eggs fail to hatch. We had one a few years ago, and coincidentally one this year, that started laying the 24th of October, and subsequent examinations revealed the same conditions as you state. She lost her head!—Ed.]

* * * *

(TO THE EDITOR.)

Sir,—I find moving bees a short distance a failure (to the ones that are behind). Last autumn I had to move my bees, as they were too near the road. On one occasion a lady ran and left the pram with a baby in it. On another occasion a horse bolted with a trap, and the lady driver blamed the bestly bot-flies for bothering her dear little Prince (the horse). There was only a 6 ft. hedge between me and my half-bred Germans and the road. Mr. Apis Mellifica couldn't sting me through the mask and gloves, so he used to hop over the top and clear the road like a bayonet charge at the front. After this had been going on all the summer, I decided to move them back about two chains from the road. Most of the colonies had three stories, all very strong. I started by dragging them about a foot a day for the first two or three weeks, then I moved them about 2 ft. at a time. The ground was very rough in some places, and the bees got very fond of me. They used to come to meet me half-way. However, after about two months, pulling them from 12 to 24 inches every morning, I got them

shifted about two chains from the road. That was about the end of June. The hives in front were very weak—only about four or five frames of bees in them; while the ones at the back had the three storeys full of bees; in fact, on a fine day they looked as if they were going to swarm. It only goes to show that the hives at the rear were getting the bees from the ones in the lead, which goes to show that they are inclined to go back to the old location, and when they couldn't find their own hive they went into the nearest. If any of our worthy correspondents know of a better way to move bees a short distance, I will be glad to hear from them through this Journal.—I am, &c.,

A. COSTELLO.

Dargaville.

[We should have gone about this differently. We should have got the bees down into the brood chambers, then placed a wire screen over the entrance to confine the bees, shifted them on a wheelbarrow to their new location, and kept them confined for two days.—Ed.]

Answers to Correspondents.

J. H. W., Markham.—Many thanks for letter. Sorry you are having such a bad time your way.

C. S., Featherston.—We beg to state you don't know what wind is: it's blowing the paint off the hives in this locality!

A New Invention.

By Y. H. BENTON.

No doubt many of our readers, when rearing large numbers of queens, have felt the need of an efficient nursery for their queen-cells. The method in vogue at present, for want of a better one, is, to say the least of it, "a crude one."

The use of nursery cages in frames entails the expenditure of much labour and time. For instance: to safely cage 100 cells, four frames of nursery cages are required; at least two colonies have to be interfered with to supply the necessary heat during incubation. These colonies have to be repeatedly opened up until such time as all the queens have hatched. When taking them out, each and every cage has to be carefully brushed free of the adhering bees, all of which takes time, and time in handling cells or young queens means the risk of chilling them.

Necessity is the mother of invention, and I could not labour under present-day methods of queen-cell incubation without trying to improve on them: hence, after many days thought, I have perfected an invention which I believe will be a great boon to beekeepers generally.

I am aware that poultry incubators are in use in England and America as cell incubators, having been adapted for that purpose; but the use of heat derived from a kerosene lamp does not appeal to me, and I determined, if possible, to work in collaboration with Nature and make use of the heat generated within the hive to further my ends, the final result of my labours in this direction being beyond my most sanguine hopes.

While the incubator is so designed that it can be placed between two hive bodies full of bees, cells can be put into and taken out of the incubator without opening up or in any way interfering with the colony which supplies the necessary heat. This I think is the main feature of the invention; another is that a ten frame size incubator will hold 102 cells comfortably. I have tested the incubator with large batches of cells this month (October), and found it work very satisfactorily, even though the nights and several days have been cold.

If any of my readers are sufficiently interested to require one for use, no doubt I could arrange to get a number manufactured. The price, I should say, will not exceed £2 10s. I intend to protect the beekeepers' interests in connection with this invention by pateuting it, and so preventing any manufacturer from securing a monopoly of same.

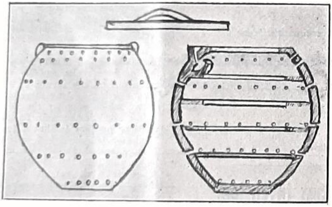
[We should like a photograph of the above appliance and a full description of the working.—Ed.]

Bees and Beemen of Old.

By BASIL H. HOWARD.

(Continued from December issue.)

Hives are to be constructed from hollow bark, or woven from osier twigs. Earthenware hives were known, for Columella condemns them as allowing too great a range of temperature. Heyne, a commentator of Vergil, can find no proofs that the ancients were acquainted with hives of straw. But bees housed in an osier basket would surely suffer in bad weather; therefore, I think that Columella must have had such hives in view when he recommended plastering with—mud! Pliny—(by the way, I do not think that Pliny ever carried out any personal observations; all his information is gathered from gossip and hearsay)—well, Pliny says that when bees enter a new home, they give their first attention to lining the whole of the interior with bee-gum, bee-glue, gluten, resin—he does not seem sure what the material is. Further, strange to relate, metal hives were sometimes used, for one has been unearthed at Pompeii. It is a marvellous contraption, this metal hive; in fact, it resembles a cinerary urn. It is supplied with a lid, and is divided into floors, to which the bees had access through numerous small holes. How the metal-hive beekeeper manipulated his patent; how he extracted his honey; how, where, and in what wise the bees built their combs is beyond my conception. However, as the learned brotherhood of archæologists has decided that the relic is a beehive, it would be temerity to cast the faintest shadow of doubt on their decision. The illustration below (one must acknowledge such legitimate thefts) is from an edition of the Fourth Georgic by Winbolt, who reproduced the illustration from Donaldson's "Pompeii."



To return to our Vergil. Narrow entrances are recommended; for, were they too wide, the winter cold would coagulate the honey, and summer heat would make it too liquid. In any case, extremes are injurious to bees. Note that the honey has the first consideration, not the bee. The standpoint, however, is common enough today. Bobby Burns once summed up the character of a canny Scot with the words: "It's a' for the hiney he'll cherish the bees."

Vergil proves that bees dislike cold from the fact that they fill all crevices and holes (what of the myriad holes in that metal hive?) with wax and with paste from flowers (sic), for which purpose they gather propolis, viscous exudations from trees, and pitch. The ancients had no very clear idea as to the nature of propolis. Pliny's remarks thereon are somewhat confusing. He is worth quoting. 'Twere better beforehand to apologise for the lameness of the translation. Pliny is beyond me here: either he is attempting to give a chemical analysis of propolis, or he believes that bees use three distinct cements or glues in their constructive work. I know of no modern equivalents for these substances (if such there be). Perhaps some of our ultra-scientific beekeepers can supply the information. All the dictionaries that I have consulted seem at a loss, so I shall retain the Latin word and give in parentheses the dictionary explanation. "Their first care is the building of combs. This done, they set about rearing young and storing honey; they gather wax from flowers and "melligo" (honey-like juice, bee-glue, bee-resin, hive-dross) from gum exuded from trees, from the sap of willows, elms, reeds, and from resin. With this material they plaster the whole of the hive interior. Then, as they are aware that what they are about to manufacture (honey) will arouse the cupidity of other 'wee beasties,' they gather a gum from bitter plants, and with it contract entrances that are too wide! The first foundation is called 'commosis' (gummy substance, foundation in honey making) by scientists; the second 'pissoceros' (pitch wax, work of pitch and wax, second foundation of honey-comb); the third 'propolis.' These are found between the hive wall and the comb, and are of great medicinal use. Propolis is obtained from the ripened juice of the vine and the poplar, and as it is thickened by the addition of flowers, though not of wax, it is used as

a support for the combs. . . . They make wax from the flowers of all kinds of trees and plants except echinopods, which is a species of grass.'' The last remark is illuminating, but then Pliny did not consider himself responsible for the veracity of his statements.

The section on the apiary site closes with a few words in warning. Do not place your hives near yew trees (they were considered poisonous); do not burn crabs in the vicinity! nor locate your hives near a swamp or a spot that reeks muchly of mud. Finally, avoid a spot where sounds are thrown back in echo from neighbouring hills. Varro and Columella both tell of the bees' dislike for echoes. Moderns, I believe, doubt whether bees are endowed with the sense of hearing.

HOW TO CATCH AND KEEP A SWARM.

As soon as spring returns, you will see the bees ranging gaily over the woodlands and the pastures, and sipping water from the surface of the streams. Now, with joy in their hearts they nourish the brood in their nests, fashion cells, draw out the honey, and reap the crop of bright flowers. I marvel that the ancients, who in certain respects observed the habits of bees very closely, could have believed that bees actually gather flowers. Other writers tell the same tale. Columella says:—''After the spring equinox they hurry forth, and, wandering far and wide, cull flowers suited to the needs of the brood and carry them into the hives.

Now, when you observe these signs, look out for swarms. Soon you will see the marshalled army winging through the liquid summer air, and dark clouds trailing down the wind. They always steer for limpid waters and leafy shade. Therefore you must scatter there the recommended perfumes—crushed balm and tufts of honey wort. Further, you must make a tinkling sound and clash the cymbals. The bees will then settle at the perfumed spot and enter the prepared hive. Columella adds that as a further precaution the hive should be smeared with thyme. That strange old conceit of beating tins and warming-pans to stay an absconding swarm is as old as the bees themselves. All the other writers to whom I have access mention that the bees take pleasure in the sound of clashing metal; and Pliny suggests its use as a means of calling bees together. The idea is dying hard, too. No doubt it is ineffective, yet many cling to the old tradition. An editor of Vergil suggests another solution to the practice. He says: ''Some suppose the keepers used this method of proclaiming their ownership of the swarm.''

(To be continued.)

It has always seemed funny to us why a fellow says he keeps bees. The truth of the matter is the bees keep themselves. All he does is to rob 'em.—N.Z. Observer, 29th November, 1919.

Removing an Apiary by Rail.

(By R. W. BRICKELL.)

I had occasion to remove an apiary of 90 colonies of bees and apiary equipment by rail the early part of this season, and as the move was accomplished without any appreciable loss of bees, details of the work and conclusions arrived at as the result of two or three operations may be of interest to readers of the Journal. It seems to me that careful attention to details will obviate the very serious loss which is occasionally reported when an apiary is moved by rail.

First, we cut battens two inches wide by half an inch thick, of various lengths, to nail the hives together. Twelve inches for single storey, eighteen inches for one and a half storey, and twenty inches for two-storey hives is about right. Next we cut wire gauze twenty-two inches long by eighteen inches wide to cover the tops, and strips of gauze 14¼in x 2½in. These latter were bent at right angles to close up the entrance. Just before dusk on the day previous to the move the hives were all closed up by nailing the angle pieces of gauze over the entrance. After completing the whole apiary in this way we went round the hives again and slipped the wire gauze below the mat, replacing the mat and the roof for the night. In the morning the work of nailing up the hives was commenced. If the work has been done carefully the previous evening there will not be one bee flying, and the workmen will not be disturbed or stung. It is of particular importance that what are known as K waggons be obtained from the Railway Department. Ordinary trucks covered with tarpaulins lead to considerable loss of bees, as I have good reason to know. A waggon covered with a tarpaulin becomes very hot indeed, and the bees scald. About fifty strong colonies in each K waggon is quiet sufficient, although the waggon can be packed to hold 100. The heat generated by 50 hives in transit is high enough for safety. In loading waggons it is necessary that the hives be packed so that the frames run parallel with the rails, and that there be sufficient space in front of the into the waggons. The roofs, &c., can be Btons of not less than 2 in. x 2i n. should be placed above the wire gauze and run the full length of the waggon—12 feet.

These bind all the hives in a solid lump and prevent movement and the consequent jar of the bees. It is, of course, understood that the roofs and mats have been removed before loading on to the drays and into the waggons. The roofs ,etc., can be packed down the sides and in the odd places which may be available, or in a separate truck if necessary. A few years ago I moved an apiary about 150 miles, and used ordinary waggons with tarpaulins. Transit was delayed owing to a block on the line and the loss was nearly 75 per cent.

[We moved 70 colonies 375 miles by rail in a K waggon, and to prevent the bees getting overheated we wedged the sliding door so that it was open about six inches. The bees opened up splendidly.—Ed.]

Feeders and Feeding.

"Which is the best feeder?" is a question that is often asked. I have used most sorts, and my answer is, "There is no best."

It is rather late in the season for this article, but feeders will be fresh in the minds of beekeepers, as some will be in the middle of feeding.

It will depend on the system you work on as to which feeder you should adopt, and also on the style of hive you use.

I find the Miller feeder is "on its own" as a labour-saver. A 12-frame Miller will hold a third of a benzine tin of syrup, and that quantity of good thick syrup will do a strong colony for three or four weeks without any aid from a flow. It is also quite possible to feed a yard at any time of the day with these feeders, provided a little care is used, and the following conditions carried out. All colonies must be strong and have entrances of small or moderate size; all covers and feeders must be bee tight, and, above all, every colony in the yard must be fed, and the larger the quantity the less chance of robbing starting, as the bees with robber inclinations seem to get full up of it by the time they have moved their own lot down. However, where possible, it is best to feed towards evening and avoid risk.

The division board and similar feeders are splendid feeders for weak colonies, and are almost robber-proof if they do not leak, and are kept well away from the entrance and next to the cluster of bees, with the bees between the feeder and the entrance.

A very simple and cheap feeder can be made from benzine tins by cutting two out of each tin lengthways, about 1½ in. high. These feeders will hold about two quarts, and should have a float of thin pieces of wood or small sticks placed in them to prevent the bees from drowning. They are only suitable for gable covers, or covers with a large air-space, but are hard to beat for a home yard, where a little syrup can be fed often.

Okaiawa. H. R. PENNY.

How much Heat do the B-M. Reducers need.

I note that quite a number of users of the B.-M. REDUCERS are going the proper way to ruin their honey through not applying enough heat to the machine. Such persons have failed to correctly reckon what an enormous amount of heat is held by a hundredweight or so of honey. Take for example the melting of 100 lbs. of honey in an hour. First we must remember that the wax also has to be melted, and wax absorbs a large amount of latent heat, of which it shows no evidence to the operator. Every 100 lbs. of honey has 4 lbs. to 5 lbs. of wax to be melted with it. Now, if we had, say, 105 lbs. of water to raise to a heat, say 5 deg. above the melting point of wax, we should need to raise that water from the usual temperature of well water, which is 55 deg., up to 150 deg., to raise an equivalent quantity of water to boiling heat, we would have to raise 6½ lbs. (nearly), or roughly 6½ gallons of water from well heat to boiling point in one hour.

Now, just consider a moment what a tedious wait we sometimes endure while a blue flame Perfection stove boils us a paltry quart or so of water for a hastily-needed cup of tea. If that stove boils that water in seven minutes we are quite proud of our success, yet we appear to quite expect that when a BARTLETT-MILLER REDUCER is on that same stove it ought to boil water at the rate of a whole gallon (a little over) every ten minutes. IT WON'T! Well, you try it.

Now, a BABY Size Reducer might well be run by a one-burner Perfection stove, but if you have a larger size, you must learn that nothing less than a double-burner will do your job, and provide whatever heat your particular size of Reducer requires.

To give purchasers some idea of what heat is necessary, I here give the calculations of the quantities of ordinary well water that your heat supply must be capable of raising to boiling heat in minutes or hours, and I venture to state that the quantities will prove an eye-opener to most of those users who have not made the calculations for themselves. I also want to impress upon all of you that it is imperative that enough heat must be supplied constantly so that the honey may flow rapidly away from the machine without getting spoilt, for that is the B-M.'s special merit, and if you provide too little heat, you are baulking the Reducer from doing the very thing it is constructed to perform, because you are delaying the honey in the troughs, while it overheats and gets discoloured. Besides this, you are spoiling your temper and wasting time, and blaming the inventor through ignorance of what your Reducer needs, the very same pattern of Machine that other persons are making such a success of that they write me that they wonder how they ever did without it.

Different Design.

The BARTLETT-MILLER REDUCERS are not now made to have a lamp placed underneath them. It is much more advisable that they should be made so that when required to put delicate coloured honey through, it should be possible to apply a heat-reducing medium to the machine. To reduce the heat of the honey after it has passed through the tubes, this may be accomplished by either keeping the lower compartment filled with cold water, or even, if necessary, having cold water flowing through the machine. The tubes are now supplied with steam apart from the bottom of the Reducer, and are supplied in the same manner as all the other Capping Reducers are. For the smaller sizes of the B.-M. Reducers, a kettle of water with a piece of rubber hose leading from the spout to the Machine is sufficient, but for BOON and larger sizes something much more effective than a mere kettle must be provided, if you expect to get anything done worth doing. Remember, the same amount of heat as here given is needed, whatever pattern or make of Reducer is owned by the operator.

Heat Equivalents.

As before stated, BABY can be worked by a Single Burner Perfection Stove, for its capacity is only 70 lbs. an hour.

BOOSTER needs at least a Double Burner Perfection, and see that you keep it well going, or your honey will be kept back and damaged.

BOON, EFFECTIVE, & GLUTTON all must have a large source of heat, as these are all built to do big work, and as that work is all done by heat, it cannot be accomplished if you do not supply the heat. Remember that it is your heat and not the actual Reducer that melts the honey; the Reducer only supplies the medium for the heat to act upon. Some persons seem to entirely forget this fact.

An ordinary oil-drum makes an ideal steam supply, with a hose as a lead for steam. Remember that if you use the machine only for cappings, you must supply all the heat that will be wasted by radiation; but of course you will not need so much as if you were going full blast with full combs.

Calculating the heat used in the wax, pollen, and slum-gum, and leaving out all wastage of radiated heat, each several Reducer needs as follows—

	Equivalent of cold water to be boiled Per hour.	Per minute.
BOON ..	18¾ gal.	2½ pints
EFFECTIVE..	24⅞ gal.	3¼ pints

GLUTTON needs a small steam boiler—say, about 1 h.p.

NOW, WHERE IS THE EFFICACY OF YOUR PERFECTION STOVE—ONLY A HONEY SPOILER.

[ADVT.]

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